Water-Data Report 2008

06471000 JAMES RIVER AT COLUMBIA, SD

James Basin
Upper James Subbasin

LOCATION.--Lat 45°36′13″, long 98°18′36″ referenced to North American Datum of 1927, in NW ¼ NW ¼ sec.33, T.125 N., R.62 W., Brown County, SD, Hydrologic Unit 10160003, on left bank 20 ft downstream from highway bridge, 0.6 mi south of Columbia, 0.9 mi downstream from Chicago and North Western Railway Co. bridge, 0.3 mi upstream from Elm River, and 12.7 mi downstream from Columbia Road Dam.

DRAINAGE AREA.--5,857 mi^2 of which 3,376 mi^2 probably is noncontributing.

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1945 to current year.

REVISED RECORDS.--WDR SD-84-1: Drainage area. WDR SD-86-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,272.91 ft above NGVD of 1929. From Oct. 1, 1945, to Oct. 4, 1957, nonrecording gage. From Oct. 5, 1957, to Sept. 30, 1980, water-stage recorder. Both gages described above at site 3.3 mi upstream from present site and at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Flow regulated by dams forming Arrowwood and Jim Lakes, combined capacity, 16,530 acre-ft, and by dam forming Jamestown Reservoir, capacity, 229,470 acre-ft, since May 1953, and by dam forming Pipestem Reservoir, capacity, 147,000 acre-ft, which reached maximum pool elevation in May 1974. Maximum discharge prior to Sept. 30, 1974, 5,420 ft^3/s, May 24, 25, 1950, gage height, 16.89 ft, from graph based on gage readings; maximum daily reverse flow, 1,860 ft^3/s, Apr. 8, 1952, backwater from Elm River. U.S. Army Corps of Engineers gage-height telemeter and satellite data-collection platform at station. Water temperature and specific conductance are measured with each discharge measurement.

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DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES
[e, estimated]

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	334	116	e66	e48	e21	e12	168	5.5	21	174	25	67
2	331	113	e64	e45	e22	e12	146	29	24	172	19	79
3	328	86	e65	e46	e22	e12	138	36	33	174	16	70
4	327	76	e66	e45	e23	e11	134	12	27	170	17	68
5	330	76	e64	e50	e20	e10	131	9.0	34	168	15	68
6	332	e75	e62	e55	e18	e9.5	e130	11	64	166	14	68
7	328	e75	e60	e54	e18	e9.0	e160	15	36	168	14	69
8	325	e76	e58	e48	e19	e10	188	19	34	154	14	68
9	316	e80	e60	e40	e17	e12	162	21	36	143	14	68
10	312	85	e60	e37	e16	e14	118	33	55	139	24	64
11	310	85	e62	e35	e16	e17	105	54	135	135	28	65
12	233	87	e62	e35	e17	e20	96	30	184	118	65	55
13	133	67	e61	e33	e17	e22	92	26	179	112	100	51
14	105	e66	e57	e27	e15	e20	90	34	172	110	181	59
15	100	e65	e58	e28	e13	e19	80	24	168	92	227	63
16	102	e67	e60	e28	e13	e18	29	25	171	83	206	66
17	99	e69	e62	e27	e12	e19	10	27	179	83	203	63
18	106	e69	e60	e25	e10	e24	7.1	39	182	81	200	59
19	109	e72	e62	e22	e8.5	e26	6.4	27	196	83	187	46
20	104	e72	e63	e20	e7.5	e27	7.6	32	216	82	162	40
21	99	e70	e62	e19	e7.0	e30	6.2	30	219	79	133	38
22	97	e70	e60	e18	e7.5	e32	6.5	29	218	70	114	41
23	110	e73	e60	e19	e8.0	e40	5.6	30	216	66	108	94
24	116	e77	e62	e20	e8.0	e50	5.3	25	211	63	102	117
25	116	e84	e64	e21	e8.5	e75	5.3	16	207	65	94	123
26	114	e79	e62	e22	e9.0	e100	6.3	15	202	58	86	119
27	117	e70	e61	e23	e9.5	e150	7.2	29	192	58	80	121
28	116	e67	e60	e24	e10	e200	6.2	22	187	56	79	119
29	116	e66	e60	e23	e11	e180	5.8	17	191	43	78	116
30	117	e68	e53	e21	---	e170	5.8	19	182	24	76	117
31	116	---	e50	e20	---	e170	---	21	---	30	70	---
Total	5,898	2,301	1,886	978	403.5	1,520.5	2,058.3	761.5	4,171	3,219	2,751	2,261
Mean	190	76.7	60.8	31.5	13.9	49.0	68.6	24.6	139	104	88.7	75.4
Max	334	116	66	55	23	200	188	54	219	174	227	123
Min	97	65	50	18	7.0	9.0	5.3	5.5	21	24	14	38
Ac-ft	11,700	4,560	3,740	1,940	800	3,020	4,080	1,510	8,270	6,380	5,460	4,480

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2008, BY WATER YEAR (WY)*

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	187	150	75.7	26.7	22.9	65.9	513	562	412	393	271	201
Max	949	930	478	113	103	468	2,856	2,661	1,610	1,211	1,085	1,084
(WY)	(1994)	(1994)	(1994)	(2001)	(1998)	(2000)	(1997)	(1997)	(1997)	(1997)	(1995)	(1993)
Min	0.00	0.00	0.00	0.00	0.00	-215	0.01	0.00	0.00	0.00	0.00	0.00
(WY)	(1977)	(1977)	(1977)	(1977)	(1977)	(1997)	(1977)	(1977)	(1977)	(1977)	(1977)	(1976)

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SUMMARY STATISTICS

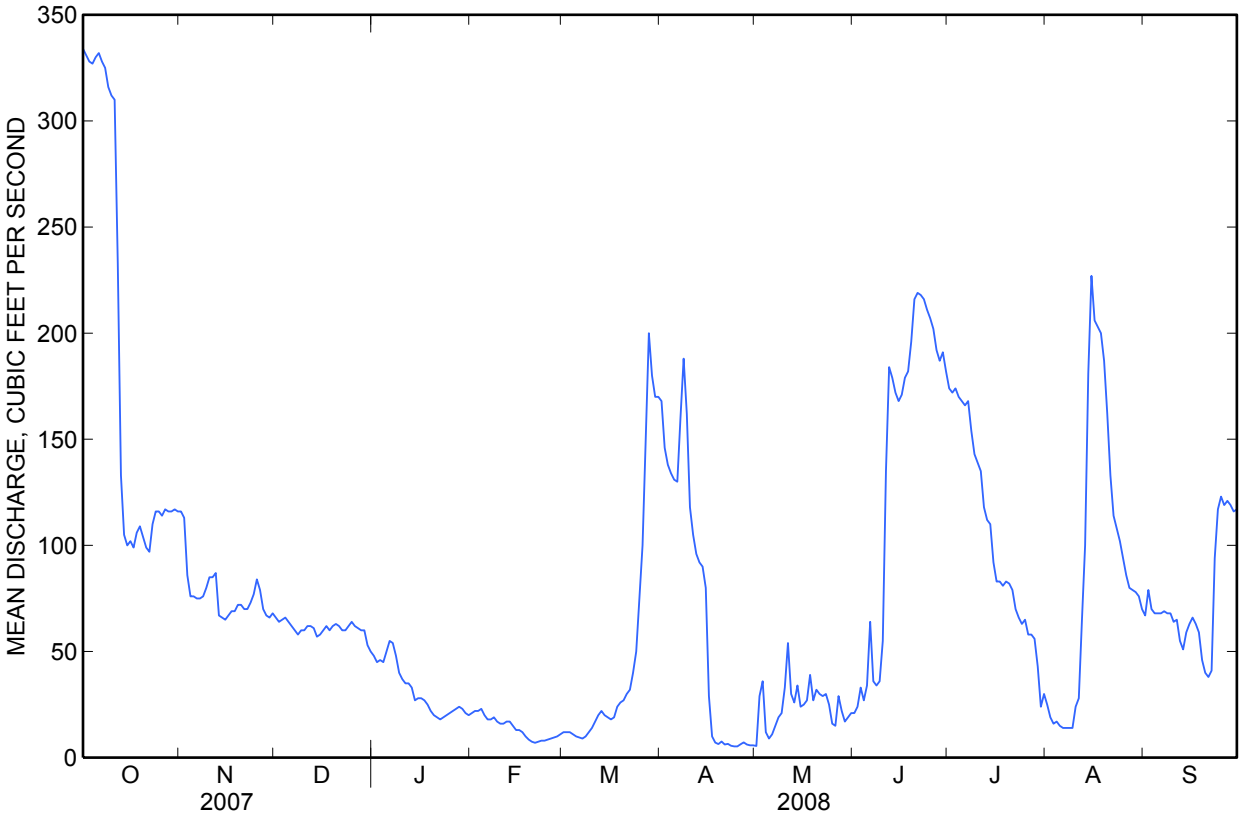
	Calendar Year 2007		Water Year 2008		Water Years 1975 - 2008*	
Annual total	143,848.15		28,208.8			
Annual mean	394		77.1		241	
Highest annual mean					856	1997
Lowest annual mean					0.06	1977
Highest daily mean	1,370	May 15	334	Oct 1	4,100	Apr 30, 1997
Lowest daily mean	-350	Mar 21	5.3	Apr 24	[a]-2,400	Mar 30, 1997
Annual seven-day minimum	-130	Mar 17	6.0	Apr 23	[a]-1,410	Mar 27, 1997
Maximum peak flow			[b]231	Aug 15	[c]4,130	Apr 30, 1997
Maximum peak stage			[b]7.37	Aug 15	[a]19.08	Apr 19, 1997
Annual runoff (ac-ft)	285,300		55,950		174,400	
10 percent exceeds	1,030		179		831	
50 percent exceeds	330		62		60	
90 percent exceeds	0.00		12		0.00	

* Regulated period only(1975-2008). See REMARKS.

[a] Backwater from Elm River.

[b] Stage falling, maximum daily discharge, 334 ft³/s, Oct. 1; maximum gage height, 8.31 ft, Oct.1.

[c] Gage height, 18.63 ft, backwater.



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WATER-QUALITY RECORDS

WATER-QUALITY DATA
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008

Date	Time	Instantaneous discharge, ft3/s (00061)	Specific conductance, wat unf µS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)
Oct					
01...	1340	351	1,140	23.0	15.5
19...	1330	113	1,300	14.0	11.0
Jan					
03...	1330	46	1,850	-3.9	.0
Mar					
12...	1110	21	2,570	8.5	.0
Apr					
10...	0840	90	1,180	4.0	6.5
21...	0935	6.3	2,860	4.5	10.5
May					
22...	1335	29	1,050	22.0	16.5
Jul					
08...	1710	151	1,230	29.5	27.0
Aug					
12...	1450	66	1,310	27.5	25.0